

**SECTION 07 13 30**  
**EIP PRMA (Protected Roof Membrane Assembly)**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes the following:
  - 1. EIP sheet waterproofing/Protected Roof Membrane Assembly
  - 2. Extruded Insulation
  - 3. Separator board
  - 4. PRMA Composite Roof Insulation
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. All Divisions.
- C. Areas of Work:
  - 1. Existing PRMA EIP membrane roof.
- D. Scope of Work:
  - 1. Cutting and patching to exactly match all existing PRMA roof system materials at new roof mounted equipment down to the existing steel deck and proper disposal of removed materials offsite.
  - 2. All modifications to the existing EIP PRMA roof system must be performed by the original roof system installer to maintain the existing Contractor's roof warranty.
  - 3. EIP roof system must be inspected by roof membrane manufacturer's non-sales technical representative, including the probing of ALL field and flashing seams, and also must pass manufacturer's inspection prior to installation of overburden.
- E. Product Data: Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties of waterproofing.
- F. Shop Drawings: Show locations and extent of EIP PRMA roof system modifications. Include details for sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining roofing, and other termination conditions.
- G. Samples: For the following products:
  - 1. Composite PRMA Roof Insulation in specified size and type.
- H. Sample Warranty: Draft copy of original roofing system Installer's existing warranty modification to include new roof modifications.

### **1.3 QUALITY ASSURANCE**

- A. The EIP PRMA roof membrane roofing system must maintain a UL Class A and/or FM 1-90 rating.
- B. Unless otherwise noted in this specification, the Roofing Contractor shall strictly comply with the manufacturer's current specifications and details.
- C. Installer Qualifications: The roof system Installer must be the original roof system Installer to maintain the existing Contractor's roof warranty.
- D. Provide adequate number of experienced workers regularly engaged in this type of work who are skilled in the application techniques of the materials specified. Provide at least one thoroughly-trained and experienced Field Superintendent on the job at all times roofing work is in progress.
- E. There shall be no deviations made from this specification or the approved shop drawings without the prior written approval of the Architect and/or COTR. Any deviation from the manufacturer's installation procedures must be supported by a written certification on the manufacturer's letterhead and presented for the consideration of the Architect and the COTR.
- F. The Contractor shall arrange for an inspection to be made by manufacturer's non-sales technical representative, including the probing of all field and flashing seams, and also must pass manufacturer's inspection prior to installation of overburden insulation. Notify the COTR and Architect at least seventy-two (72) hours prior to the EIP manufacturer's final inspection.
- G. Fire-Test-Response Characteristics: Provide roofing materials with the fire test response characteristics indicated as determined by testing identical products per test method indicated below by UL, FM, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
  - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and slopes indicated.
  - 2. Fire-Resistant Ratings: ASTM E119, for fire-resistance, rated roof assemblies applicable to this system.
- H. Pre-installation Conference: Before installing roofing system, conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings". Notify participants at least 5 working days before conference.
  - 1. Meet with COTR; Architect Consultant; COTR's insurer, if applicable,

- roofing Installer; roofing system manufacturer's representative; deck Installer; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
  3. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing.
  4. Review temporary protection requirements for roofing system during and after installation.
  5. Document proceedings, including corrective measures or actions required, and furnish copy of record to each participant.

I. Inspections

1. Inspections deemed appropriate by the EIP membrane manufacturer shall be made by a representative of the EIP membrane manufacturer during the project.

**1.4 DELIVERY, STORAGE, AND HANDLING**

- A. Store roofing materials in a dry, warm, well-ventilated, weather-tight location according to EIP roofing system manufacturer's written instructions. Store rolls of sheet materials on end on pallets or other raised surfaces. Do not double-stack rolls.
  1. Handle and store roofing materials and place equipment in a manner to avoid significant or permanent deck deflection or damage to structural supporting members.
- B. Do not leave unused felts and other sheet materials on the roof overnight or when roofing work is not in progress unless protected from weather and moisture and unless maintained at a temperature exceeding 50 deg F (10 deg C).
- C. Deliver and store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer.
- D. Protect roofing insulation and decking materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- E. IF TARPS ARE USED TO PROTECT MATERIALS, THE TARPAULINS MUST BE NON-SWEATING AND SECURED TO THE MATERIALS IN A NON-DESTRUCTIVE MANNER AND MUST DRAPE ONTO THE GROUND OR ROOF SURFACE.
- F. MATERIALS CANNOT BE EXPOSED TO LIQUID WATER. IF MATERIALS ARE FOUND TO

BE OR HAVE BEEN EXPOSED TO LIQUID WATER, THEY WILL BE CONSIDERED DAMAGED. ANY DAMAGED MATERIALS CAN NOT BE USED AND MUST BE IMMEDIATELY REMOVED FROM THE SITE.

- G. All packaging materials, i.e. shrink-wrap, must be removed from all insulation materials prior to cover the materials with tarpaulins. The Contractor must then secure all materials to ensure that no materials become a safety issue.
- H. No materials can be stored on the finished roof or adjoining roofing systems which are under warranty without prior approval of the COTR and the use of protection consisting of, at a minimum, 1/2 inch plywood and 1-1/2 inch polyisocyanurate insulation, banded together.

#### **1.5 PROJECT CONDITIONS**

- A. Environmental Limitations: Apply EIP PRMA roof membrane system within range of ambient and substrate temperatures recommended by EIP membrane manufacturer. Do not apply waterproofing to a damp or wet substrate.
  - 1. Do not apply EIP membrane in snow, rain, fog, or mist conditions.
- B. Maintain adequate ventilation during preparation and application of roofing materials.

#### **1.6 WARRANTY**

- A. Manufacturer's Warranty: The Contractor shall maintain the existing PRMA composite insulation (ballast) manufacturer's written warranty covering the entire roofing system and from wind damage for up to 80-mph winds, including overburden removal and replacement without charge to the Owner. The Contractor shall also maintain the EIP roofing manufacturer's 20-year written warranty, agreeing to repair or replace waterproofing that does not comply with requirements and/or that does not remain watertight within specified warranty period, without the provision for removal and replacement of all overburden to repair leaks and/or problems with the installed roof system.
  - 1. Warranty Period: 20 years after date of original roof completion.
  - 2. PRMA composite insulation manufacturer's existing warranty includes removal and replacement of all overburden when repairing any leaks without cost to Owner.
  - 3. A wind guaranty up to 80-mph.
- B. The Contractor shall furnish a written five-year Guarantee covering labor and materials used in the roof installation against leaks and/or faulty workmanship and/or materials. Guaranty shall include removal and replacement of all overburden when repairing any leaks without cost to the Owner.
- C. Warranties and guarantees must be submitted before retainage will be released.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Products: Subject to compliance with requirements, provide the following products:
1. Membrane:
    - a. EIP to match existing
  2. Extruded polystyrene insulation to match existing
  3. Fasteners
    - a. Manufacturer's approved type
  4. PRMA Composite Roof Insulation Panels and retainers to match existing

**2.2 EIP MEMBRANE ROOFING**

- A. Approved Membranes:
1. Polyvinyl Chloride, 80 mil, thermoplastic waterproofing membrane meeting or exceeding ASTM D4434, Type III performance standards and containing KEE (Elvaloy)
  2. Polyvinyl Chloride, 60 mil, thermoplastic waterproofing membrane meeting or exceeding ASTM D6754 performance standards and containing KEE (Elvaloy)
- B. Flashing Membrane:
1. Polyvinyl Chloride, 60 mil, thermoplastic waterproofing membrane meeting or exceeding ASTM D4434, Type III or ASTM D6754 performance standards and containing KEE (Elvaloy)

**2.3 EXTRUDED POLYSTYRENE INSULATION**

- A. Board Insulation: Extruded-polystyrene board insulation complying with ASTM C 578, drainage edges on all four sides of bottom of panel; of type, density, and compressive strength indicated below:
1. Type VII, 2.2-lb/cu. ft. minimum density and 25-psi minimum compressive strength.
  2. Board Dimension: 4' x 8'
  3. Thickness: One layer of 2.0 inches.

**2.4 SEPARATOR BOARD**

- A. Separator Board: ¼-inch 4'x8' closed cell polyisocyanurate foam board with clay coated fiber glass facer over metal decks prior to membrane installation.

**2.5 FASTENERS**

- A. Fasteners: A #15-13, buttress threaded, 3 phillips head fastener constructed of case hardened carbon steel with a reduced diameter drill point and corrosion resistant coating.

- B. Barbed Stress Plates: Used to anchor membrane, are 2.5 inch x 1.5 inch rectangular in dimension with 0.75 inch radial corners, manufactured from 18 gauge AZ-50 galvalume steel with a 0.250 inch diameter hole in its center. The plate has a raised reinforcement area and "barbs".
- C. Termination Bar: Membrane flashing(s) restraint / termination seals, nominal 1/8" x 1" x 10' 6060-T5 extruded aluminum bar with pre-punched slots, 8" o/c.

## **2.6 PROTECTED ROOF MEMBRANE ASSEMBLY (PRMA) COMPOSITE INSULATION PANELS**

### **A. Composite Cementitious-Surfaced Foam Insulation**

#### **1. The composite insulation shall be:**

- a. The size shall be 24 in. x 48 in. x 2-inches foam thickness to achieve the desired U-factor through the complete roof system.
- b. The foam component of the composite insulation panels shall have the following physical properties:
  - i. Typical 5-year aged R-value of 5.0 per sq. ft.-h-°F/Btu per in. of thickness when tested at 75°F mean temperature in accordance with ASTM C 518-76.
  - ii. Minimum compressive strength of the foam insulation shall be 40 lbs. per sq. in. when tested in the vertical direction (at 10% deformation or yield, whichever occurs first) in accordance with ASTM D 1621-73.
  - iii. The foam insulation component shall meet the physical property requirements given in ASTM specification C 578-85, Type VI.

#### **2. The composite insulation shall have the following properties:**

- a. Withstand freeze/thaw conditioning for a minimum of 750 freeze/thaw cycles in accordance with ASTM C 666 procedure B.
- b. Minimum weight of 4 lbs. per sq. ft.

### **B. Factory Fabricated Perimeter Metal Securement.**

- 1. L-shape perimeter securement shall be approved by Manufacturer.
- 2. J-shape perimeter securement shall be approved by Manufacturer.

### **C. Field and Shop Fabricated Metal Securement.**

- 1. Counter flashing/gravel stop perimeter metal securement detail must be fabricated to extend a minimum of 6 in. onto the surface of the Composite Insulation panels and meet all material requirements stated in this section.
- 2. Metal securement shall be minimum 22 ga. (0.0284-0.0314) ASTM grade 304 stainless steel.

### **D. Fasteners**

1. Fasteners for metal attachment to PRMA Insulation panels shall be approved by the Manufacturer.
2. Fasteners for attachment of metal securement to structure shall be approved by the Manufacturer.
3. Nails not acceptable

## **2.8 AUXILIARY MATERIALS**

- A. A one-component gun-grade polyurethane sealant to seal flashing termination.
- B. A one component pourable, self leveling, polyurethane sealant to fill "pitch pans".
- C. Pre-Molded Flashing
- D. Non-Reinforced Membrane - Field fabrication membrane, 0.060 mil non-reinforced EIP membrane for flashing transition and all T-joints.
- E. Bonding Adhesive - A solvent based, contact type, (two sided) bonding adhesive, designed for bonding membrane to clean and dry, pre-approved horizontal and/or vertical substrates.
- F. Non-metallic, Non-shrink Grout: Premixed, non-metallic, non-corrosive, non-staining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, Grade A for drypack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions under which roofing system materials will be applied, with Installer present, for compliance with requirements.
- B. Verify that roof openings and penetrations are in place, set, and braced.
- C. Do not proceed with installation until unsatisfactory conditions have been corrected.

### **3.2 PREPARATION**

- A. Remove all existing roofing materials down to the deck in the roof modification area.
- B. Clean all substrates of dust, debris, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

### **3.3 SEPARATOR BOARD INSTALLATION**

- A. Install the ¼-inch board over the deck area loose-laid with no gaps between boards.

### **3.4 INSTALLATION of EIP MEMBRANE**

#### **A. Quality Control**

1. It is the responsibility of the Roofing Installer to initiate a Quality Control program to govern all aspects of the installation of the new EIP waterproofing system.
2. The Job Foreman and/or Supervisor will be responsible for the daily execution of the QC program which will include but is not limited to the supervision and inspection during substrate preparation, installation of separator boards, separator sheets, insulation, the application of adhesive(s), fasteners, ballast materials and probing of All heat welding incorporated within the EIP membrane system.
3. If any inconsistencies are found in the overall quality of the installation, including, but not limited to, the quality of the welds, all work shall cease until corrective actions are taken to insure the continuity/watertightness of all workmanship.

#### **B. General**

1. All work shall be coordinated to ensure that the sequencing of the installation will allow for a 100% watertight installation at the end of each work day.

#### **C. Membrane**

1. Unroll and position the membrane onto the properly prepared substrate and separator board.
2. Install the membrane in a flat, relaxed position avoiding excess wrinkles and stretching.
3. Adjoining rolls shall overlap a minimum of four (4) inches, properly shingled with the flow of water wherever possible.
4. Stagger the factory seams to prevent adjacent factory welds from falling on top of one another.
5. The field membrane shall be properly affixed to the deck or restrained in an approved manner at all roof perimeters, walls, expansion joints, curbs and penetrations having any one dimension greater than 24 inches in length. See EIP Manufacturer's current construction details.

#### **D. Hot-Air Welding**

1. General
  - a. All field seams exceeding 10 ft. in length shall be welded with a Manufacturer approved automatic welder.
  - b. All field seams must be clean and dry prior to initiating any field welding.
  - c. Remove foreign materials from the seams (dirt, oils, etc.) with Acetone, MEK, or approved alternative. Use CLEAN WHITE COTTON cloths and allow approximately five minutes for solvents to



dissipate before initiating the automatic welder. Do not use denim or synthetic rags for cleaning.

- d. All hot-air welding shall be performed only by qualified personnel to ensure the quality and continuity of the welds.

2. Hand Welding

- a. The lap or seam area of the membrane should be intermittently tack welded to hold the membrane in place.
- b. The back 'interior' edge of the membrane shall be welded first, with a continuous weld to concentrate heat along the exterior edge of the lap during the final welding pass.
- c. The nozzle of the hand held hot-air welder shall be inserted into the lap at a 45° angle to the lap. Once the polymer on the material begins to flow, a hand roller shall be use to apply pressure at a right angle to the tip of the hand welder. Properly welded seams shall utilize a 1½" wide nozzle, to create a homogeneous weld, a minimum of 1½" in width.
- d. Smaller nozzles may be used for corners and other field-detailing, maintaining a minimum 1" weld.

E. Inspection

- 1. **The Job Foreman and/or Supervisor shall initiate daily inspections of all completed work which shall include, but is not limited to the probing of all field welding with a dull-pointed instrument to assure the quality of the application and ensure that any equipment or operator deficiencies are immediately resolved. An EIP manufacturer's technical representative must be on site as required by the EIP manufacturer to ensure proper installation methods are being followed by the Installer.**
- 2. Ensure that all aspects of the installation (sheet layout, attachment, welding, flashing details, etc.) are in strict conformance with the most current EIP manufacturer's specifications and details.
- 3. Excessive patching of field seams because of inexperienced personnel/or poor workmanship will not be accepted at the time of FINAL INSPECTION FOR WARRANTY ACCEPTANCE, which will be determined by the COTR, at the COTR's sole discretion.
- 4. Any deviation from pre-approved specifications and/or details requires written authorization from the EIP membrane manufacturer prior to application to avoid any warranty disqualification.

**3.6 FLASHING**

- A. Flash all curbs and vertical surfaces in strict accordance with approved details and the specifications and drawings.

- B. All flashings shall be fully adhered to properly prepared, approved substrate(s), with specified adhesive applied in sufficient quantity to ensure total adhesion.
- C. The base flange of all membrane flashing shall extend out on to the plane of the deck, beyond the fastener placement for membrane attachment to a width of 8 in.
- D. Vertical flashing shall be terminated no less than 8 in. above the plane of the deck, or to the maximum height available in accordance with the detail which may verify lesser or greater than the 8", with approved termination bar and counter-flashing or metal cap flashing. Sealant is to be installed at the point of the termination bar and behind counterflashings or metal caps in a fashion that allows for a 100% application in sufficient quantity to ensure a full layer that will ooze out of the gap when the termination bar is fastened.
- E. Complete all inside and outside corner flashing details with pre-formed corners or an approved field fabrication detail.
- F. Probe all seams with a dull-pointed probe to ensure the welding has created a homogeneous bond. **NO PATCHING OF THE FLASHING WILL BE ALLOWED; THE INSTALLATION OF THE FLASHING MUST BE WITHOUT DEFECT.**
- G. Install penetration accessories in strict accordance with approved details. Ensure penetration accessories have not impeded in any way the proper working specification. Refer to the related trade for the technical specification.

### **3.7 SEALANTS**

- A. Apply authorized sealant(s) to all surface-mounted reglets and where called for. Sealant(s) are to shed water, following manufacturer's instructions and installation guides.
- B. Use primer when recommended by the sealant manufacturer.

### **3.8 INSULATION INSTALLATION**

- A. Insulation shall be installed according to the insulation manufacturer's recommendations.
- B. Install one layer of 2" thick specified board insulation over EIP waterproofing membrane surfaces. Cut and fit to within 1/2 inch of projections and penetrations.
- C. On horizontal surfaces, loosely-lay insulation units in parallel courses according to manufacturer's written instructions. Stagger end joints and tightly abut insulation.
- D. Insulation shall be neatly cut to fit around penetrations and projections.
- E. Do not install more insulation than can be covered by overburden (composite insulation) by the end of the work day.

**3.9 PROTECTED ROOF MEMBRANE ASSEMBLY (PRMA) COMPOSITE INSULATION PANELS**

- A. Multi-layer Installations of Extruded Polystyrene and PRMA Composite Insulation Panels
  - 1. Layer of insulation underlying the PRMA composite insulation panels must be extruded polystyrene with a minimum compressive strength of 40 lbs. per sq. in.
  - 2. The lower layer must be equal to or thicker than the thickness of the PRMA Insulation panels.
  - 3. All joints shall be staggered in relation to other layer.
  - 4. All layers shall be installed unadhered.
- B. PRMA Composite Insulation Panels Installation
  - 1. Commencing installation of PRMA Composite Insulation panels.
    - a. Always start at a corner close to the source of the prevailing wind. Work from the bottom of slope to the top.
    - b. Start the first row with a whole board at a corner with groove-side toward the edge of the roof. Snap a chalk line the width of one board (2 ft.) away from the perimeter edge as a guide. Lay the boards tightly in the row.
    - c. To obtain a stagger, the second row of boards should begin with a half board. Two additional chalk lines at 90 degree angles to the first, at 4 ft. and 6 ft. away from the perimeter edge, should be snapped to help maintain end-stagger by indicating starter lines for the ends of the first boards in the next rows.
    - d. Once the array is started it must be continued across the entire roof area.
    - e. Insulation panels shall be cut using masonry-saw blades.
  - 2. General Placement of Composite Insulation Boards.
    - a. Tight tongue-and-groove integrity (with no gaps greater than 1/4 in.) and a staggered-joint array must be maintained.
    - b. Boards must remain unadhered to the membrane.
    - c. All sides of the boards must be tightly butted to the adjacent boards.
    - d. The concrete mortar surface on the boards must not be in contact with terminations such as parapets, curbs, etc. Use of 1/2 in. thick polyethylene foam is suggested.
    - e. Boards shall be laid with 4 ft. long side in the direction of the roof slope. Array should begin at the bottom of steep roof slopes and be continued to the roof peak. This is most critical for roof slopes greater than 1/2 / 12.
  - 3. Terminations

- a. Panels must be a maximum of 1/2 in. from all terminations or penetrations. The insulation may be beveled to conform to the slope of cant strips.
  - b. Boards must be terminated immediately adjacent to drain bonnet.
  - c. Perimeter terminations
    - i. Long-Edge Termination: Perimeter termination method when 4 ft. long edge of board is against the perimeter. Pieces with width equal to or greater than 6 in. must be placed into position with tongue-and-groove integrity. For terminating pieces less than 6 in. wide, tongue-and-groove is not required.
    - ii. Short-Edge Termination: Perimeter termination method when 2 ft. long edge of board is against the perimeter. Boards ending a row with lengths less than 6 in. may be moved into the array of the roof as the second board from the perimeter.
  - d. All foam exposed directly to the sun shall be coated with exterior grade latex paint or otherwise protected.
- C. Perimeter Securement
- 1. Metal Perimeter Edge Securement
    - a. Metal counter flashing/gravel stop securement. The metal counter flashing/gravel stop securement shall extend a minimum of 6 in. onto the surface of the LG PRMA Insulation panel and be attached 18 in. on center using approved fasteners. Fasteners must be 3 in. minimum from any board edge.
    - b. Factory prefabricated metal counter flashing/gravel stop securement. Install L-shape or J-shape metal securement in accordance with the manufacturer's instructions
  - 2. The metal perimeter edge securement shall be securely attached to the perimeter edge wood nailer or wall a maximum of 12 in. on center using appropriate fasteners, providing minimum 200 lb. pull resistance.
  - 3. The metal perimeter edge securement shall not run for continuous lengths over 12 ft. Proper considerations for coefficient of expansion/contraction and corrosion must be incorporated in the design of the metal and fasteners.
  - 4. The metal perimeter edge securement must be attached to a terminating board that has tongue-and-groove integrity and is equal to or greater than 6 in. wide. If the termination board is less than 6 in. wide, the metal perimeter securement must be extended a minimum of 6 in.

onto the surface of the next whole board in and be attached a maximum of 18 in. on center.

5. When perimeter drainage is used (i.e. gutter edge detail) the perimeter securement must be perforated and constructed from minimum 18 gauge stainless steel.

D. Securement Where Tongue-and-Groove Integrity Has Been Lost

1. Interruptions in Tongue-and-Groove Integrity

- a. Wherever tongue-and-groove integrity is lost or cuts are made through the insulation boards, securement shall be added to tie the system together using:
  - i. A metal strap, 8 in. wide minimum, centered on the break and fastened on both edges, 12 in. on center. The strap must extend a minimum of 4 in. onto the face of the board and the fasteners must be a minimum of 3 in. from edges.

2. Internal Penetrations

- a. All penetrations greater than 4 ft., but less than 12 ft. in any direction shall be secured with minimum 3 in. wide, 22 gauge metal strap secured a maximum of 12 in. on center.
- b. Internal penetrations greater than or equal to 12 ft. in any direction must be secured in the same manner as the perimeter.

E. Fasteners

1. Installation of Fasteners

- a. All fastener manufacturer's installation specifications must be followed.
- b. Fasteners must be placed in a predrilled hole when installed into the LG PRMA Insulation panels, with the hole size specified by the fastener manufacturer. Hammer type drills must not be used in drilling the holes.
- c. Fasteners must not be overdriven and must be perpendicular to the appropriate plane.
- d. Correct drill bits and tools as recommended by the product manufacturer shall be used to ensure proper fastener installation.
- e. Fasteners shall be placed a maximum of 18 in. on center for attaching perimeter edge securement and a maximum of 1 ft. on center for attaching securement where tongue-and-groove integrity has been lost. Fasteners shall be placed a minimum of 3 in. from any of the insulation board edges.

**3.10 FIELD QUALITY CONTROL**

- A. Verify field strength of seams a minimum of twice-daily, according to manufacturer's written instructions, and repair seam sample areas in a

manner acceptable aesthetically to the independent Building Exterior Consultant and COTR, at their sole discretion.

- B. Roof Inspection: As required by the EIP membrane manufacturer before a warranty is issued. Prior to installing overburden PRMA insulation, ensure that a manufacturer's technician has probed/approved every linear inch of seams and approved every square foot of membrane.
- C. Final Roof Inspection: Arrange for the EIP waterproofing system manufacturer's technical personnel to inspect roofing installation upon completion and submit report to the Architect and the COTR.
- D. Notify the Architect and the COTR at least 48 hours in advance of the proposed date and time of inspection.

### 3.11 PROTECTING AND CLEANING

- A. Protect EIP sheet membrane waterproofing from damage and wear during remainder of construction period. **Do not traffic over or store any materials on completed PRMA roof areas.**
- B. Correct any deficiencies in, or remove, PRMA roofing that does not comply with stated requirements, and repair substrate(s), reinstall roofing, and repair sheet flashings to a condition free of damage and deterioration at the time of Substantial Completion and according to warranty requirements.
- C. Clean: Remove overspray and spillage from adjacent construction daily, using cleaning agents and procedures required by manufacturer of affected construction.

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